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The present invention is directed to airbag fabrics that are formed of a substrate of high tenacity yarn such as nylon, polyester, polypropylene or the like with an extrusion coating of a thermoplastic material. Because of the extrusion coating, these fabrics may be made of lower denier yarns with a less dense weave. For example, high tenacity yarns formed of deniers in the range of 210 to [660may] 660 may be woven with warp and fill densities of 30 to 70 ends per inch. For example, a 420 denier fabric, when coated according to the present invention, will result in fabrics having a tear strength to weight ratio of about 10[#] lbs. per oz per yd^2. As a more specific example, a 4.4 oz/yd^2 fabric made of 210 denier yarns and coated according to the present invention should achieve a tear strength of almost 40[#] lbs. High tenacity yarns, i.e., those with a tenacity greater than 5 grams/denier, along with the extrusion coating, permit the resulting fabric to exhibit a high strength to weight ratio. This is extremely important in fabrics used in air bags and the like. When provided with an extruded thermoplastic coating, compatible to the fabric material, these lighter weight fabrics become lightweight and air impermeable. By properly selecting the yarn and coating, the fabric can be recyclable. Air impermeability is defined as less than 0.3 cfm/ft^2 at 0.5 in water pressure (125 Pascals).

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1(Amended). An airbag fabric being substantially air impermeable and comprising a fabric substantially formed of yarns having a tenacity greater than 5 grams/denier and an extrusion coating [of] including a thermoplastic material selected from the group consisting of linear low density polyethylene, other polyethylenes, polyurethane, nylon, polypropylene, and polyester, [and blends thereof,] said coated fabric having a tear strength, when tested according to ASTM D1682 in excess of that achieved by conventional solvent coated fabrics.

4(Amended). An airbag fabric being substantially air impermeable and comprising a woven fabric substrate [formed of] including a [yarns] yarn selected from the group consisting of polyester, polypropylene, and blends of nylon, polyester and/or polypropylene and an extrusion coating of a material selected from the group consisting of linear low density polyethylene, other polyethylenes, or polyurethane, nylon, olefins, and polyester, [and combinations thereof,] said coated fabric having a tear strength, when tested according to ASTM D1682 in excess of that achieved by conventional solvent coated fabrics.

Remarks

The Office Action mailed February 27, 2003 has been carefully considered. After such consideration, Claims 1-12 remain in the case with none of the claims being allowed.

The Examiner objected to the specification for minor grammatical corrections. These have been made as suggested by the Examiner.

In addition, the Examiner objected to the Declaration as filed for not including the required priority references to the parent and grandparent cases. The original declaration, which was filed without signature, included this information but it was unintentionally omitted in the signed Declaration that was filed. A signed copy of the new Declaration will be submitted under separate cover for the Examiner's approval.

The Examiner had rejected Claims 1-12 under the judicially created doctrine of double patenting as being unpatentable over U.S. Patent No. 5,763,330. A terminal disclaimer along with the required fee is included herewith to overcome such objection.

The Examiner also had rejected Claims 1, 2, 4, and 11 under U.S.C. 102(b) as anticipated by, or, in the alternative, under U.S.C. 103(a) as obvious over Kitamura, or Sakari, or Rodenbach et al. In addition, the Examiner has rejected Claims 3, 5, 10, and 12 under U.S.C. 103(a) as obvious over Kitamura, or Sakari, or Rodenbach et al. and further in view of Mohammed et al.

Included herein is a declaration under 37 CFR 1.132 that was submitted in the parent case and, therefore, is part of the record in the present application. The Affidavit illustrates the superiority of Applicant's invention and includes comparative experiments along the lines of the ASTM tests shown in the specification.

The extrusion coating of the present invention is clearly superior to those of the prior art. Specifically, the extrusion coated fabric constructed according to the present invention is up to about 8% lighter while, at the same time, between about 33-44% stronger than the prior art! To the contrary, conventional coatings, such as set forth in the prior art, appear much less likely to improve tear strength contrary to the approach the textile industry has taken for years.

Claims 2-3; and 5-12 contain the allowable subject matter of independent Claims 1 and 4, as amended, respectively, and are, therefore, also allowable.

The Applicant submits that by this amendment he has placed the case in condition for immediate allowance and such action is respectfully requested. However, if any issue remains unresolved, Applicant's attorney would welcome the opportunity for a telephone interview to expedite allowance and issue.

Respectfully submitted,

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Date: June 27, 2003
File No.: 3000-041

CERTIFICATE OF MAILING

I HEREBY CERTIFY THAT THIS DOCUMENT IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST-CLASS MAIL, IN AN ENVELOPE ADDRESSED TO: **COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450**, ON JUNE 27, 2003

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Name of Depositor

Donna Cottelli
Signature

6-27-03
Date of Signature